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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,650

11/25/2005

Haruo Wakayama

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03/31/2008

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EXAMINER

MICHALSKI, SEAN M

ART UNIT

PAPER NUMBER

3724

MAIL DATE

DELIVERY MODE

03/31/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,650	Applicant(s) WAKAYAMA, HARUO	
	Examiner SEAN M. MICHALSKI	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 2-4 and 6-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/5/05 and 8/22/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 8/22/2007 and 5/05/05 was considered by the examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 5, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoekstra et al (US 6,489,588) in view of Ishikawa et al. (US 6,536,121).

Hoekstra discloses in figure 3 a vertical crack forming member (60) with a blade tip (62: a "scribe wheel" is a blade tip) a heating means (41) a cooling means (42, 50, etc.; are a "quenching" device—which is a cooling means) an arrangement movement means (28 figure 2) and a control unit (36 figure 2). Regarding claim 5, *the order* : (1) vertical crack forming member, (2) heating means, and (3) cooling means is clearly observed in figure 3.

Hoekstra does not explicitly disclose that the heating of the substrate is to a temperature "below the softening point", but does disclose that "modeling and experimentation can determine optimum LSAD parameters" which implies that the other heating element (the DALCE of the ICD) should also be optimized.

Examiner takes official notice of the fact that scoring operations are best when the substrate is *below the softening point* (the point at which materials with no defined melting point switch from viscous to plastic flow - and vice versa), since *scoring* is most effective when a material is *not* plastically deforming.

It would have been obvious to one of ordinary skill in the art to select a heated temperature below the softening point of the substrate, since Hoekstra demonstrates that experimentation and modeling is to be applied to determine the heating parameters of the device, and additionally, it has been held that discovering an optimum result of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). That is to say, determining the desired temperature of the substrate, and ensuring that the lasers used created that temperature would have been routine in the art.

Hoekstra does not disclose an “impact force applying means”.

Ishikawa discloses a scribing tool which vibrates or oscillates up and down (see figure 8 and abstract), varying the pressure applied to a substrate. Each vibration constitutes an “abrupt impact”.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to make the scribe wheel of Hoekstra a vibrating scribe wheel, since doing so allows for “deep vertical cracks [...] without incurring damage on the work surface” (Column 2 lines 2-3) as taught by Ishikawa.

Regarding claims 14, 15 and 16, since impacts are made at every point of the scribe line, they are also made at intersecting scribe line points, edge points, and points

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“slightly” inside the edges. It is noted that nothing in the claim language precludes the impact force from being applied *everywhere along* the path, thus meeting the limitations regarding the edge, the near edge, and the intersection points.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN M. MICHALSKI whose telephone number is (571)272-6752. The examiner can normally be reached on M-F 7:30AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sean M Michalski/
Examiner, Art Unit 3724

/Kenneth E Peterson/
Primary Examiner, Art Unit 3724

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